

IN THE CLAIMS

Claims 1-300 (canceled)

Claim 301 (currently amended): A method of preventing or reducing fogging of a surface of a composite when subjected to humid conditions, comprising:

providing a composite with a surface, said composite comprising a substrate and a photocatalytic surface layer, said photocatalytic surface layer comprising a photocatalyst;

subjecting the photocatalyst to photoexcitation by exposing the composite to sunlight to render the surface of the composite hydrophilic, wherein, after said photoexcitation, the surface of the composite has a water wettability of less than 10° in terms of the contact angle with water; and

subjecting the composite to humidity that is sufficient to induce fogging of said substrate if said photocatalytic surface layer were absent.

Claim 302 (canceled)

Claim 303 (previously presented): The method of claim 301, wherein, after said photoexcitation, the surface of the composite has a water wettability of less than 5° in terms of the contact angle with water.

Claim 304 (previously presented): The method of claim 301, wherein, after said photoexcitation, the surface of the composite has a water wettability of about 0° in terms of the contact angle with water.

Claim 305 (previously presented): The method of claim 301, wherein said photocatalyst is selected from the group consisting of TiO_2 , ZnO , SnO_2 , Sr TiO_3 , WO_3 , Bi_2O_3 and Fe_2O_3 .

Claim 306 (previously presented): The method of claim 305, wherein said photocatalytic surface layer further comprises a metal selected from the group consisting of Ag, Cu and Zn.

Claim 307 (previously presented): The method of claim 305, wherein said photocatalytic surface layer further comprises a metal selected from the group consisting of Pt, Pd, Rh, Ru, Os and Ir.

Claim 308 (canceled)

Claim 309. The method of claim 301, wherein said substrate comprises glass.

Claim 310. The method of claim 301, wherein, said substrate comprises glass containing alkaline network modifier ions, and wherein said composite further comprises a film disposed between said substrate and said photocatalytic surface layer, said film preventing ions from diffusing from said substrate into said photocatalytic surface layer.

Claim 311 (canceled).

Claim 312 (currently amended): A method for maintaining a surface of a composite in a clean state when subjected to dirt in air and ~~environmental~~ precipitation, comprising:

providing a composite with a surface, said composite comprising a substrate and a photocatalytic surface layer, said photocatalytic surface layer comprising a photocatalyst;

subjecting the photocatalyst to photoexcitation by exposing the composite to sunlight to render the surface of the composite hydrophilic, wherein, after said photoexcitation, the surface of the composite has a water wettability of less than about 20° in terms of the contact angle with water;

subjecting said composite to dirt in air or ~~environmental~~ precipitation; and

washing away the dirt on the surface of the composite by occasional contact with water.

Claim 313 (canceled)

Claim 314 (previously presented): The method of claim 312, wherein, after said photoexcitation, the surface of the composite has a water wettability of less than 10° in terms of the contact angle with water.

Claim 315 (previously presented): The method of claim 312, wherein, after said photoexcitation, the surface of the composite has a water wettability of less than 5° in terms of the contact angle with water.

Claim 316 (previously presented): The method of claim 312, wherein, after said photoexcitation, the surface of the composite has a water wettability of about 0° in terms of the contact angle with water.

Claim 317 (previously presented): The method of claim 312, wherein said photocatalyst is selected from the group consisting of TiO_2 , ZnO , SnO_2 , Sr TiO_3 , WO_3 , Bi_2O_3 and Fe_2O_3 .

Claim 318 (previously presented): The method of claim 317, wherein said photocatalytic surface layer further comprises a metal selected from group consisting of Ag, Cu and Zn.

Claim 319 (previously presented): The method of claim 317, wherein said photocatalytic surface layer further comprises a metal selected from the group consisting of Pt, Pd, Rh, Ru, Os and Ir.

Claim 320 (canceled)

Claim 321 (previously presented): The method of claim 312, wherein said substrate comprises glass containing alkaline network modifier ions, and wherein said composite further comprises a film disposed between said substrate and said photocatalytic surface layer, said film preventing ions from diffusing from said substrate and photocatalytic surface layer.

Claim 322 (previously presented): The method of claim 312, wherein said substrate is a tile, a portion of the body of a motor vehicle, an inner panel of a building, or an outer panel of a building.

Claim 323 (canceled)

Claim 324 (previously presented): The method of claim 301, wherein said photocatalytic surface layer further comprises silica or silicone.

Claim 325 (previously presented): The method of claim 301, wherein said photocatalytic surface layer consists essentially of said photocatalyst.

Claim 326 (previously presented): The method of claim 310, wherein said film comprises silica.

Claim 327 (previously presented): The method of claim 312, wherein said photocatalytic surface layer further comprises silica.

Claim 328 (previously presented): The method of claim 312, wherein said photocatalytic surface layer consists essentially of said photocatalyst.

Claim 329 (previously presented): The method of claim 321, wherein said film comprises silica.